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EXAMINER

NGUYEN, PHUONGCHAU BA

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
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| Office Action Summary | Application No. 10/726,440 | Applicant(s) KOBAYASHI, OSAMU | |
| | Examiner PHUONGCHAU BA NGUYEN | Art Unit 2416 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 2-12-9 AF.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4-10,12,15-21,23,26-32,34 and 36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4-10,12,15-21,23,26-32,34 and 36 is/are rejected.
- 7) ☒ Claim(s) 11,22,33 and 37 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Claim Rejections – 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 9, 20, 31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 9, 20, 31 recite the limitation "the virtual link bandwidth" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections – 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claims 1, 4-7, 8, 10, 12, 15-19, 21, 23, 26-30, 32, 34, 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mamiya (US 2001/0030649 A1) in view of Kelton (US 2004/0203383 A1).

Regarding claims 1, 12,

Mamiya discloses a method of real time optimizing transmission of a number of multimedia data packets between a multimedia source device (Host system 10-fig.5) and a multimedia display device (display 30, fig.5) coupled by way of a unidirectional main link (unidirectional fast transfer line 56-fig.5) arranged to carry the multimedia data packets from the multimedia source device and the multimedia display device and a separate bi-directional auxiliary channel (bi-directional fast transfer line 57-fig.5) arranged to transfer information between the multimedia source device and the multimedia display device

Mamiya does not explicitly disclose providing a test pattern by the multimedia source device on the main link; determining a transmission quality factor of the main link by determining a bit error rate by multimedia display

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device based upon the test pattern; sending the bit error rate to the source device by way of auxiliary channel; and optimizing the transmission of the multimedia data packets based upon the transmission quality factor if the bit error rate is greater than a predetermined threshold value bit error rate.

However, in the same field of endeavor, Kelton discloses providing a test pattern (test data packet, 0037) by the multimedia source device 110-fig.1 on the main link 150-fig.1 by determining (identifying) a bit error rate (BER, 0037) by multimedia display device; sending the bit error rate (error check or acknowledge, 0037) to the source device 110-fig.1 by way of auxiliary channel 155-fig.1 (also see 0041); and determining a transmission quality factor (current channel reliability) of the main link 150-fig.1 based upon the test pattern (test data packet, see 0037); and optimizing (adjusting) the transmission of the multimedia data packets (coding rate, bit per symbol to carriers) based upon the transmission quality factor (identifier channel reliability, see 0037) if the bit error rate is greater than a predetermined threshold value bit error rate (the predetermined threshold value bit error rate

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is inherent therein, i.e., acceptable BER in 0030, was being used to determine the adjustment for optimization—emphasis added, see also 0039). Therefore, it would have been obvious to an artisan at the time of the invention was made to apply Kelton's teaching of determining and adjusting power/BER based on the predetermined/acceptable threshold power/BER level to Mamiya's system by implementing Kelton's teaching into Mamiya's multimedia system to display images with a better adjustment in power/BER with the motivation being to determine the current channel reliability and to improve channel output.

Regarding claims 2, 13, Kelton further discloses wherein the determining a transmission quality factor comprises: determining (identifying) a bit error rate (BER, 0037) based upon the test pattern by the multimedia display device; sending the bit error rate (acknowledge, 0037) to the source device 110—fig.1 by way of the auxiliary channel 155—fig.1 (also see 0041).

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Regarding claims 6, 17, Kelton further discloses wherein the bi-directional auxiliary channel 155-fig.2 is formed of a uni-directional back channel configured to carry information from the display device 170-fig.2 to the source device 110-fig.2 and a unidirectional forward channel included as part of the main channel 155-fig.2 for carrying information from the source device 110-fig.2 to the display device 170-fig.2 in concern with the back channel 155-fig.2 (0051).

Regarding claims 7, 18, Kelton further discloses wherein the number of multimedia data packets are divided into a number or associated multimedia data packets streams (0057-0058, wherein transmitting the first set of data associated with the first device to the first device, and the second set of data associated with the second device to the second device; see also 0035).

Regarding claims 23, 24, 28, 29,

Mamiya discloses the host system 10-fig.5 maybe composed of a personal computer PC that includes an optional card or used a semiconductor chip for realizing such the card function, wherein the program in the PC maybe updated so as to realize the card function in a software manner, See 0045.

Mamiya-Kelton discloses all the claimed limitations as disclosed in the rejections to claims 1-2, 6-7, 12-13 & 17-18 as set forth, but not explicitly disclose computer program product executable by a processor comprising: computer code for providing, determining, optimizing and computer medium for storing the computer code.

However, Kelton further discloses data controller 115-fig.1 can be used to read data received over medium 105, thus the storage is inherent therein the data controller 115 from capable of receiving (0033); the data controller 115 further identifying (determining as claimed) a receiving device (0033); selecting and providing data (optimizing as claimed) correspondence to the control data returned from devices (0035, see also 0030, 0037, 0039). Therefore, it would

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have been obvious to an artisan at the time of the invention was made to implement Kelton's teaching in computer code storing on computer medium (software) as suggested for devices 162 in software or hardware of Kelton's teaching to Mamiya's multimedia system to display images with a better adjustment in power/BER with the motivation being to determine the current channel reliability and to improve channel output, thus it is a common practice to implement to source device 110 in software or hardware, and with the motivation being to easy modify the instructions in software or computer code for updating process and cost saving.

Regarding claim 34,

Mamiya discloses a method of real time optimizing transmission of a number of multimedia data packets between a multimedia source device (Host system 10-fig.5) and a multimedia display device (display 30, fig.5) coupled by way of a unidirectional main link (unidirectional fast transfer line 56-fig.5) arranged to carry the multimedia data packets from the multimedia source

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device and the multimedia display device and a separate bi-directional auxiliary channel (bi-directional fast transfer line 57-fig.5) arranged to transfer information between the multimedia source device and the multimedia display device.

Mamiya does not explicitly disclose (a) providing a test pattern by the multimedia source device on the main link; (b) determining a bit error rate of the main link based upon the test pattern; (c) sending the bit error rate to the source device by way of the auxiliary channel; (d) determining if the bit error rate is greater than a predetermined threshold value bit error rate; and (e) optimizing the transmission of the multimedia data packets based upon the determining (d) when the bit error rate is determined to be greater than a predetermined threshold value bit error rate; then determining if the transmission rate of the multimedia data packets on the main link is greater than a minimum transmission rate.

However, in the same field of endeavor, Kelton discloses (a) providing a test pattern (test data packet, 0037) by the multimedia source device 110-

fig.1 on the main link 150-fig.1; (b) determining a transmission quality factor (current channel reliability) of the main link 150-fig.1 based upon the test pattern (test data packet, see 0037); (c) sending the bit error rate (acknowledge, 0037) to the source device 110-fig.1 by way of the auxiliary channel 155-fig.1 (also see 0041); (d) determining (identifying) a bit error rate (BER, 0037) based upon the test pattern by the multimedia display device; and (e) optimizing (adjusting) the transmission of the multimedia data packets (coding rate, bit per symbol to carriers) based upon the transmission quality factor (identifier channel reliability, see 0037)) when the bit error rate is determined to be greater than the predetermined threshold value bit error rate (the predetermined threshold value bit error rate is inherent therein, i.e., acceptable BER in 0030, was being used to determine the adjustment for optimization-emphasis added, see also 0039), then determining if the transmission rate (transmission rate to HDTV, see 0034) of the multimedia data packets on the main link (first channel 150) is greater than a minimum transmission rate (i.e., acceptable BER in 0030). Therefore, it would have been obvious to an artisan at the time of the invention was made to apply Kelton's teaching of determining

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and adjusting power/BER based on the predetermined/acceptable threshold power/BER level to Mamiya's system by implementing Kelton's teaching into Mamiya's multimedia system to display images with a better adjustment in power/BER with the motivation being to determine the current channel reliability and to improve channel output.

Regarding claims 4, 15, 26,

Mamiya does not explicitly disclose wherein the optimizing further comprises: when the bit error rate is determined to be greater than a predetermined threshold value bit error rate; then determining if the transmission rate of the multimedia data packets on the main link is greater than a minimum transmission rate.

However, in the same field of endeavor, Kelton discloses optimizing (adjusting) the transmission of the multimedia data packets (coding rate, bit per symbol to carriers) based upon the transmission quality factor (identifier

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channel reliability, see 0037)) when the bit error rate is determined to be greater than the predetermined threshold value bit error rate (the predetermined threshold value bit error rate is inherent therein, i.e., acceptable BER in 0030, was being used to determine the adjustment for optimization—emphasis added, see also 0039), then determining if the transmission rate (transmission rate to HDTV, see 0034) of the multimedia data packets on the main link (first channel 150) is greater than a minimum transmission rate (i.e., acceptable BER in 0030). Therefore, it would have been obvious to an artisan at the time of the invention was made to apply Kelton's teaching of determining and adjusting power/BER based on the predetermined/acceptable threshold power/BER level to Mamiya's system by implementing Kelton's teaching into Mamiya's multimedia system to display images with a better adjustment in power/BER with the motivation being to determine the current channel reliability and to improve channel output.

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Regarding claims 5, 16, 27, 36,

Mamiya does not explicitly disclose reducing the main link transmission rate; and determining the bit rate based on the reduced main link transmission rate.

However, in the same field of endeavor, Kelton discloses altering (increasing/decreasing) a data rate associated with a channel (0032) and also see 0033–0034 (e.g., selecting different rate for different device, 0034). Also, Kelton discloses determining a current reliability of first channel based on data channel signal to noise ratio, received BER or signal power (0037 wherein the rate was already altered for the associated channel, i.e., first channel, and now then channel at the altered rate was being determined for error in the bit rate, i.e., BER–emphasis added). Therefore, it would have been obvious to an artisan at the time of the invention was made to apply Kelton’s teaching of determining and adjusting power/BER based on the predetermined/acceptable threshold power/BER level to Mamiya’s system by implementing Kelton's teaching into Mamiya’s multimedia system to display images with a better adjustment in

power/BER with the motivation being to determine the current channel reliability and to improve channel output.

Regarding claims 8, 19, 30,

Mamiya does not explicitly disclose a number of virtual links each being associated with a particular one of the multi media data packet streams wherein each of said virtual links has an associated virtual link bandwidth and a virtual link rate.

However, in the same field of endeavor, Kelton discloses a number of virtual links (first and second channels 150, 155 in fig.1) associated with a particular one of the multimedia data packet streams (HDTV or SDTV, see 0034-0035) wherein each of said virtual links (first or second channel 150, 155 in fig.1) has an associated virtual link bandwidth (each channel has a capacity/bandwidth, see 0027) and a virtual link rate (data transmitted on first and second channels at different rate, see 0034). Therefore, it would have been

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obvious to an artisan at the time of the invention was made to apply Kelton's teaching of each of the wireless/virtual channels having a particular capacity and rate for receiving/transmitting multimedia data packet streams to Mamiya's multimedia system to determine the allocated channel capacity based on an amount of data to be transmitted to each of the receiving devices with better quality adjustment in power/BER with the motivation being to determine the current channel reliability and to improve channel output.

Regarding claims 10, 21, 32,

Mamiya does not explicitly disclose wherein each of the virtual link rates associated with each of the virtual links are optimized.

However, in the same field endeavor, Kelton discloses first and second virtual channels (150, 155 in fig.1) wherein each channel transmitted at different rate (0034). Therefore, it would have been obvious to an artisan at the time of the invention was made to apply Kelton's teaching of adjusting

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power/BER based on the predetermined/acceptable threshold power/BER level to Mamiya's multimedia system to display images with a better adjustment in power/BER with the motivation being to determine the current channel reliability and to improve channel output.

5. Claims 9, 20, 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mamiya in view of Kelton as applied to claims 4, 16, 27 above, and further in view of Giroux (7,046,631).

Regarding claims 9, 20, 31,

Mamiya does not explicitly disclose wherein a main link bandwidth is at least equal to an aggregate of the virtual link bandwidths.

However, in the same field of the endeavor, Giroux discloses wherein a plurality of virtual channel connections (virtual links) aggregated onto a virtual path connection (main link) is provisioned with a guaranteed bandwidth and the guaranteed transmission bandwidth of the path is obtained by summing the

guaranteed transmission bandwidths for the at least one of the plurality of connections aggregated onto the path (see patented claim 10). Therefore, it would have been obvious to an artisan at the time of the invention was made to apply Girouz's teaching of virtual path bandwidth is aggregated of virtual connection bandwidths to Mamiya's multimedia system with the motivation being to allow efficient allocation and utilization of available network bandwidth.

Allowable Subject Matter

6. Claims 11, 22, 33, 37 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The indicated allowability of claims 3-5, 8-10, 14-16, 19-21, 35-36 is withdrawn in view of the newly discovered reference(s) to Giroux (7,046,631).

Rejections based on the newly cited reference(s) follow.

Response to Arguments

8. Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to PHUONGCHAU BA NGUYEN whose telephone number is (571)272-3148. The examiner can normally be reached on Monday-Friday from 8:00 a.m. to 4:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on 571-272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see

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<http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/PHUONGCHAU BA NGUYEN/
Examiner, Art Unit 2416

/Ricky Ngo/
Supervisory Patent Examiner,
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